

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-4. (cancelled)

5. (currently amended) A method for controlling the number of cylinder valves in at least a cylinder operating in a internal combustion engine, the method comprising:

operating at least a cylinder to carry out combustion with a first number of active valves in a cycle of said cylinder, during at least a first operating condition of a catalyst; and

operating said cylinder to carry out combustion with a second number of active valves in a cycle of said cylinder, during a second catalyst operating condition, said second catalyst operating condition different from said first catalyst operating condition and said first number of active valves different from said second number of active valves.

6. (original) The method of Claim 5 wherein said operating state of said catalyst brick is a oxidant storage capacity.

7. (original) The method of Claim 5 wherein said operating state of said catalyst is an amount of oxidants stored by said catalyst brick.

Page 2 – AMENDMENT

Serial No. 10/805,613; Record ID 81100266

8. (original) The method of Claim 5 wherein said catalyst state is temperature of said catalyst brick.

9. (currently amended) A method for controlling the valve pattern in at least a cylinder operating in a internal combustion engine, the method comprising:

operating at least a cylinder to perform combustion with a first active valve pattern configuration in a cycle of said cylinder, during at least a first operating condition of a catalyst; and

operating said cylinder to perform combustion with a second active valve pattern configuration in a cycle of said cylinder, during a second catalyst operating condition, said second catalyst operating condition different from said first catalyst operating condition, where the difference between the first valve configuration and the second valve configuration is at least one of active valve spatial location in said cylinder head.

10. (original) The method of Claim 9 wherein said operating state of said catalyst brick is a oxidant storage capacity.

11. (original) The method of Claim 9 wherein said operating state of said catalyst is an amount of oxidants stored by said catalyst brick.

12. (original) The method of Claim 9 wherein said catalyst state is temperature of said catalyst brick.

Page 3 – AMENDMENT

Serial No. 10/805,613; Record ID 81100266

13-32. (cancelled)

33. (currently amended) A method for determining ~~the number of cylinder strokes and a~~ valve pattern in a cycle of ~~a cylinder of~~ an internal combustion engine, the method comprising:

determining an operating condition of at least one catalyst brick located in an exhaust system of said internal combustion engine;

selecting a number of cylinders in which to delay a valve opening after a combustion event in respective cylinders, based on said catalyst brick operating condition;

~~determining~~ varying a spatial valve pattern of active valves in said selected cylinders, based on said catalyst brick operating condition, wherein said valve pattern includes at least one active valve; and

operating said active valves in said selected cylinders during a cycle of said internal combustion engine.